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REMEDIAL INVESTIGATION WORKPLAN  
CATELLUS DEVELOPMENT CORPORATION  
CENTRAL PROPERTY  
12140 SLAUSON AVENUE  
SANTA FE SPRINGS, CALIFORNIA

Project No. 14858-032-128  
JANUARY 10, 1992

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 **DAMES & MOORE**  
LOS ANGELES, CALIFORNIA

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**1.0 INTRODUCTION**

This document is a technical work plan for a remedial investigation (RI) of the Central property portion of a former new car preparation facility in Santa Fe Springs, California. The property is an L-shaped parcel that occupies approximately 21 acres (see Figure 1).

The purpose of this work plan is to compile and summarize existing data regarding the site, identify gaps in existing data, establish areas requiring further characterization, and describe steps to be taken to accomplish a more complete characterization of the site. Site characterization activities will include a geophysical survey, a soil gas survey, and soil (unsaturated zone) and groundwater (saturated zone) investigations.

To date, previous consultants have collected and chemically analyzed soil and groundwater samples associated with former underground storage tanks (USTs), sumps, and clarifiers. The analyses of these samples indicates the presence of volatile organic compounds in soil and groundwater in varying concentrations in several areas onsite. A summary of these investigative results and remediation activities is presented in Sections 2.2 and 2.3 of this work plan, respectively.

A description of each site characterization work element planned for the RI is presented in Section 3.0 of this work plan. Supportive documentation such as the Health & Safety Plan and Decontamination Procedures are presented in Appendices C through F.

Plate 1 is an aerial photograph showing site features existing in March 1988. Current site features as of August 29, 1991 are shown on Plate 2. Site features visible from the air in March, 1988 are superimposed on the existing site features and are shown on Plate 2. Site parcels and their designation are shown on Figure 2.

### **1.1 Principal Objectives**

The principal objectives of the RI will be to: (1) evaluate the nature, concentration, and vertical and lateral extent of soil contamination in the unsaturated zone; (2) evaluate the nature, concentration, and lateral extent of groundwater contamination; (3) assess the sources of detected soil and groundwater contamination; (4) evaluate the risk associated with the detected contamination relative to potential human health and environmental impacts; and (5) provide the basis for evaluating appropriate remedial alternatives for the site, if necessary.

### **1.2 Scope**

To address the objectives of the RI, the following tasks will be performed:

1. Evaluation of former site operations to develop a better understanding of procedures, materials, and chemicals associated with such operations.
2. A geophysical survey to evaluate the presence of subsurface obstructions and to attempt to identify plumbing left in place after demolition of the former buildings.
3. A soil vapor survey to evaluate the possible presence of volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH) in soil vapor. Results of the soil vapor survey will be used to assess the locations of soil borings.

4. Soil borings for the purpose of collecting soil samples for chemical analysis within areas associated with former new car preparation operations and background areas.
5. Trenching along piping left in the ground that was associated with former building drains and clarifiers for the purpose of collecting soil samples for chemical analysis.
6. Installation of additional groundwater monitoring wells and groundwater sampling from monitoring wells throughout the site to evaluate local groundwater conditions.

## **2.0 BACKGROUND INFORMATION**

### **2.1 Summary of Site History**

This summary of historical land use for the site was developed based upon information presented in previous environmental investigation reports, discussions with Catellus Development Corporation (Catellus) representatives, agency file information, building permits, and review of historical aerial photographs and United States Geological Survey (USGS) quadrangle maps.

Dames & Moore reviewed and interpreted selected historical aerial photographs for evidence of past land use and/or site activities which may have involved the manufacture, generation, use, storage and /or disposal of hazardous materials. Aerial photographs of the site vicinity for the years 1928, 1936, 1945, 1949, 1956, 1959, and 1962 were reviewed from the Fairchild collection at Whittier College. Aerial photographs for the years 1966, 1969, 1973, 1976, and 1977 were reviewed at the Map and Imagery Library at the University of California at Santa Barbara. Aerial photographs of the site vicinity from the years 1963, 1966, and 1969 were reviewed from the Spence Collection at the University of California

at Los Angeles. An aerial photograph from approximately 1988 was provided by Catellus. Aerial photographs for the years 1979, 1987, and 1988 were obtained from Continental Aerial Photo, Inc. Additional aerial photographs for the early 1980's are not available.

### **2.1.1 Summary of Historic Land Use**

Historical aerial photographs indicate that the western portion of the original 40-acre property was occupied by a bulk above-ground storage facility from approximately 1928 to the mid-1940's (Figure 2A). From the 1940's until the early 1960's, the property appeared to be used for agricultural purposes. The property was occupied by General Motors Corporation from approximately 1963 to 1965. General Motors used the property for new car preparation operations under the name Dallas Smith Automotive Preparation. From approximately 1965 to 1988, Chrysler Corporation occupied the property and also used the facility for new car preparation. In 1988, Chrysler discontinued operations at the facility and removed its equipment, USTs, and clarifiers. Catellus developed the eastern (the LaSalle Property) and northwestern (the Multitenant Property) portions of the original 40-acre property by constructing office and warehouse structures during the period 1989 through 1990 (Figure 2). The central portion of the original 40-acre property (the Central Property) where most of the former automotive operations occurred remains undeveloped.

Ownership of the original 40-acre property passed from a private owner to the Pacific Electric Railroad in 1929. It is unknown when ownership was transferred to the Southern Pacific Company. The original 40-acre property was deeded from the Southern Pacific Company to the Southern Pacific Industrial Development Company in 1974. The Southern Pacific Industrial Development Company was succeeded by Catellus.

Aerial photographs taken in 1928 through the early 1940's indicate that the western portion of the original 40-acre property was at one time used as an above-ground bulk fuel storage facility. As many as seven relatively large above-ground fuel storage tanks appear to have been located onsite in the 1928 photograph. Two storage tanks and evidence of the

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previous existence of others were observed in the 1936 photograph. The fuel storage tanks were removed by the 1945 photograph and portions of the original 40-acre property appeared to be in use for agriculture.

An aerial photograph taken in 1963 revealed that the original 40-acre property had been recently graded and appeared to be undergoing some development (apparently by General Motors Corporation). At least six buildings were observed onsite. The 1966 photograph (approximately the beginning of Chrysler's operations there) revealed the western portion of the original 40-acre property to be covered with asphalt and used as parking for a number of automobiles. Nine buildings were also observed on the central and northwestern portions of the property. A 1969 aerial photograph confirmed that the original 40-acre property was being used for automobile storage. At least one newer structure and an addition to another were observed on the central portion. A 1973 photograph indicated that the site was used to store hundreds of automobiles and appeared similar to the conditions observed in the 1969 photograph. The 1976 photograph is similar to that observed in 1973, however, at least five additional buildings were observed on the central and eastern portions of the original 40-acre property. The site features observed on the 1977 photograph were not significantly different from those observed the previous year. Hundreds of automobiles parked onsite and 17 buildings were observed on the 1979 photograph. Some buildings were observed to have been remodeled and an elongate building constructed at the western edge of the original 40-acre property on the 1987 photograph. Much of the original 40-acre property appeared to be paved and used for parking of hundreds of automobiles.

An aerial photograph taken in March 1988 revealed that the property appeared similar to that observed in 1987 (Plate 1). An office building with landscaping was observed near the current location of Beasor Drive and Burke Street. At least 17 other buildings were observed throughout the site, most were concentrated in the south-central portion of the original 40-acre property. An aerial photograph taken in July, 1988 indicated that the property was no longer in use: no automobiles were observed onsite; several of the buildings

seen in the earlier 1988 photograph had been removed, and several areas in the vicinity of visible or former buildings appeared to have been excavated.

The surrounding areas to the northwest, north, and northeast of the original 40-acre property appeared to have been used for agricultural purposes (i.e. plowed fields or groves of trees) from 1928 through the 1940's. By the 1960's, industrial and residential development had replaced the agricultural activities on land to the northwest, north, and northeast. The area to the south was observed to be an oil field from approximately 1928 up to the 1988 aerial photograph.

#### **2.1.2 Review of Appropriate Regulatory Agency Files**

- o California Department of Health Services, Toxic Substances Control Division (DHS). A written inquiry was sent to the DHS requesting information regarding the original 40-acre property. Mr. Satish Gulati responded on June 25, 1991 that the DHS had only one item in its file, a notice of violation and order to comply issued March 2, 1970 by the Los Angeles County Engineer to Chrysler New Car Prep Systems, Inc. concerning the improper discharge of liquid waste to the storm drain from the spot plating area (front-end building, O). According to the notice of violation, liquid waste discharge to the storm drain was collected and analyzed by Los Angeles County personnel. The concentration of total dissolved solids and chromium was in excess of allowable limits and the county ordered the discharge to be stopped immediately. Chrysler complied by plugging access to the floor drains.
- o California Occupational Health and Safety Administration (CALOSHA). Telephone inquiries were made to CALOSHA requesting information regarding complaints made by workers against Chrysler Nu Car Prep. As of the date of this workplan, Dames & Moore has not received a response from CALOSHA.

- o Los Angeles County Department of Health Services (County DHS). A written inquiry was sent to the County DHS requesting Haz-Mat files for the original 40-acre property address, 12140 Slauson Avenue. A review of the County DHS files sent to Dames & Moore by the DHS indicated that the available files were for the period of time when the property was occupied by Chrysler New Car Prep Systems. A summary of pertinent information follows:
  - o A new spray paint booth was installed in 1976;
  - o A County DHS inspector's report dated August 25, 1978 listed the following operations: painting, tune-up, cleaning and waxing, body work, and car washing. The hazards listed included: solvent vapors, dust, noise, detergent, and carbon monoxide. Specific portions of the property where the operations occurred were not listed;
  - o Material Safety Data Sheets (MSDS) in the file indicate the use of unspecified solvents, degreasers, and alcohol;
  - o Chrysler New Car Prep was sent a notice of violation on July 12, 1985 and directed to correct the following violations to the State Health and Safety Code: (1) disposal of paint residue and wash liquids to the storm drain; (2) immediately begin to store all hazardous waste in non-leaking, labelled, dated, and sealed containers; (3) discontinue onsite storage of hazardous waste for periods of greater than 90 days; (4) maintain copies of all hazardous waste manifest forms; (5) provide DHS with a plan to contain hazardous waste at the facility; (6) provide MSDS forms on all raw materials and chemicals and provide a plumbing diagram; and (7) discontinue the disposal of hazardous wastes, paint sludge, and body putty into the trash;
  - o Chrysler New Car Prep Systems applied for UST permits on December 2, 1985 for seven USTs (T-1, T-3, and T-6);
  - o Application for closure of two 10,000-gallon USTs made to County DHS on December 9, 1985 (T-2);



- County DHS personnel inspected two removed USTs onsite on December 11, 1985 (T-2);
  - Supplementary application for UST permits for 7 USTs made on December 10, 1985 (T-1, T-3, and T-6);
  - Application for closure of two 10,000-gallon USTs and one 550-gallon UST made to County DHS on February 20, 1986. The file did not contain information regarding the location of the USTs for which permit or closure applications were made (probably T-4, location of waste oil UST remains unknown);
  - County DHS personnel inspected three removed USTs onsite on February 28, 1986 (T-4 and unknown location);
  - Six physicians reports indicating that on six separate occasions in 1973 and 1978, employees were treated for contact dermatitis and chemical burns after handling detergents, decosmoline, and/or acids; and
  - Wastes generated onsite were removed by a variety of haulers such as Safety Kleen, Grow Chemicals, Oil Process Corporation, and C & W Chemical to disposal facilities such as BKK Landfill, Demenno Kardoan, and Oil and Solvents Process Company.
- Los Angeles County Department of Public Works (DPW). Records on file at the DPW indicated that Dallas Smith Service Corporation (General Motors) and Chrysler New Car Prep were cited for several violations of their industrial wastewater discharge permits.
- Dallas Smith Service Corp. on January 14, 1964 for discharging wastewater from the carwash to the sewer without the proper interceptor. An interceptor was subsequently installed.
  - On March 2, 1970, Automotive Precheck Corp. (part of Chrysler New Car Prep) was cited for discharging liquid waste to the storm drain that was above acceptable limits for total dissolved solids and hexavalent chromium.

- In February, 1971, Automotive Precheck was directed to clean three sewer traps within 7 days. Traps numbered 1,2, and 3 were in violation of the industrial waste permit by being "heavy with oil and solvent". The permits were for the discharge of floor washdown and carwash water from several of the buildings.
- May 21, 1976, New Car Prep Systems was ordered to discontinue discharging wastewater to the ground surface. Trucks and vans were being washed on a concrete pad that did not drain to the sewer. Wash water was allowed to pond on the surrounding surfaces and run off to the storm drain. New Car Prep Systems responded in June, 1976 that they had decided to discontinue carwashing operations on the concrete pad.
- January, 1977, New Car Prep Systems cited for violation of Industrial Wastewater discharge permits for not reporting or performing analyses for critical parameters specified in the permit. The oil and grease concentration was greater than 75 mg/l and was considered excessive. Better maintenance of cleanouts was recommended. The pH of wastewater was less than 6.0. New Car Prep Systems was advised to maintain the pH above 6.0.

Copies of applications for UST closure were also contained in the file.

- o California Regional Water Quality Control Board, Los Angeles Region (RWQCB). A review of the waste discharge permits and the Leaking Underground Storage Tank (LUST) list indicated that RWQCB has no current records or files associated with the site or its previous occupants.
- o South Coast Air Quality Management District (AQMD). A written inquiry was sent to the AQMD on June 21, 1991. The AQMD provided copies of permits to operate paint spray booths and a distillation unit for recovery of

paint thinner and acetone. Notices of violation were provided that indicated that the nozzle boots on three of the gasoline pumps were in disrepair. According to the inspectors report there were three USTs operating at that time (September, 1983), two 3000-gallon USTs (T-1) and one 10,000-gallon UST (T-3). The nozzle boots were repaired the same day. No information related to the location of the USTs was contained in the file.

- o City of Santa Fe Springs Fire Department. A review of records on file at the Fire Department indicated that several industrial waste permits were issued over a period of years (1963 to 1988) to various occupants (Chrysler Motor Company, Southern Pacific Company, Chrysler Nu Car Prep Systems Inc., Dallas Smith Service Corporation, and Dallas Smith Development) of the site. Underground storage tank permits were also issued.
- o City of Santa Fe Springs Department of Building and Safety. A review of records on file with the Department of Building and Safety indicated that there were no building permits on file prior to 1963 when several buildings for use in new car preparation were constructed onsite. Several permits for the addition of buildings, building additions, service pits, USTs, car washes, alterations to buildings, a clarifier, a transformer, a boiler, floor drains, sewer and storm drain connections were issued to various permittees from 1963 through 1987. These permittees included Dallas Smith Automotive Preparation, Southern Pacific Company, Chrysler Corporation, and Chrysler Nu Car Prep Systems. Demolition permits for all the buildings were issued to Southern Pacific Development Company in 1988.

### **2.1.3 Agency List Review**

A review of readily available agency lists was conducted for information regarding hazardous substance releases, landfills, or other hazardous waste facilities or environmental

investigations at or near the site. Throughout the balance of this document, "subject property" in reference to the property that is the subject of this document, will refer to the Central property portion of the original 40-acre property. A copy of the list search results including a map showing the locations of listed sites is contained in Appendix A. The following summarizes the results of this review:

- o The United States Environmental Protection Agency (EPA) National Priorities List (NPL or Federal Superfund) updated to April 24, 1991 lists one NPL site within a one-mile radius of the subject property. This site, known as Waste Disposal, Inc. is located approximately one mile south (downgradient) of the subject property.
- o The EPA Comprehensive Environmental Compensation and Liability Act of 1980 (CERCLIS) list updated to January 25, 1991 lists 16 sites within a one-mile radius of the subject property. Ten of the CERCLIS sites are located in upgradient positions within 1/2-mile of the subject property.
- o The California Department of Health Services (DHS) Toxic Substances Control Program Expenditure Plan for the Hazardous Substances Cleanup Bond Act of 1984 (State Superfund or BEP) updated to January 1990, lists two sites within a one-mile radius of the subject property. One is located approximately 1/2-mile upgradient from the subject property. The other is located approximately 1-mile downgradient.
- o The California Regional Water Quality Control Board Underground Storage Tank Leak List updated to March 21, 1991 lists 31 leaking underground storage tank (LUST) sites within a one-mile radius of the subject property. Thirteen of these sites are located within approximately 1/2-mile upgradient from the subject property.

- o The California Governor's Office of Planning and Research Hazardous Waste and Substances Sites List (Cortese) updated to November 1990 lists 28 sites within a one-mile radius of the subject property. Twelve of these CORTESE sites are located within approximately 1/2-mile upgradient from the subject property.

The subject site appears on the Hazardous Waste Information Systems (HWIS) list. The State of California DHS Toxic Substances Control Division maintains the HWIS to track hazardous waste generators and hazardous waste treatment, storage, and disposal facilities in the State of California. Nu Car Prep Systems, Inc., is listed with the DHS as a generator of hazardous waste. The DHS indicated that the County DHS had information regarding the site. As mentioned in Section 2.1.2, the DHS had only one item related to the property in their files, a letter concerning the improper discharge of wastewater.

## **2.2 Summary of Previous Facilities**

Currently, the only summary of industrial processes and hazardous materials/waste management practices was prepared by McLaren Environmental Engineering (McLaren) for Catellus and presented in McLaren's report dated January 11, 1989. McLaren representatives visited the site on March 29, and April 20, 1988 to observe the Chrysler New Car Preparation facility. According to the report, Chrysler had discontinued operations at the site early in March, 1988, however, most of the buildings were still standing. Mr. Jim Parker, the operations manager for Chrysler was interviewed by McLaren for descriptions of the former use of and operations performed at the car preparation facilities. A summary of the site facilities and hazardous materials used as described by McLaren is presented in the following paragraphs. The locations of the described facilities are shown on Plate 3.

Materials used at the site included new and used motor oil, unleaded and leaded gasoline, acrylic and enamel paint, detergents, flammable solvents, chlorinated hydrocarbons used for degreasing parts and washing cars and trucks, alcohols and emulsifiers. McLaren

reviewed MSDS forms provided by Chrysler to compile the various chemicals used at the subject property. These materials were stored in USTs, 55-gallon drums, and 5-gallon buckets. Methods of disposal were not documented by McLaren. Oily sludge was observed in the carwash conveyor belt system, oily staining of the ground surface was observed at the south end of the detail building and at the base of the hydraulic system in the carwash.

Service pits, as mentioned below, are typically a depression in the ground that is approximately the size of an automobile and deep enough for a person to stand in underneath the automobile so that service work can be performed. McLaren did not describe the construction of the service pits which are usually constructed of concrete. The base of the service pit may be paved with concrete with a small sump underneath to catch spilled materials.

The clarifiers or separators were constructed of concrete and were intended to catch sand, silt, grit, and greasy materials so that they were not discharged to the sewer. The clarifiers received liquid that had been washed down the floor drains in the various buildings onsite. Liquid from the carwash was also discharged into a clarifier before being discharged to the sewer. One of the former clarifiers (CL-4, a 1000-gallon separator associated with the front-end building) previously discharged directly to the flood control channel at the southeast end of the subject property. The clarifiers required regular cleaning and maintenance to operate properly. Accumulated grease and dirt was removed periodically and disposed. McLaren did not present information to document how waste materials were disposed nor did they make reference to methods of solvent recovery.

New automobiles were coated with a waxy material (cosmoline) to protect the automobile during shipping. Solvents, kerosene, and detergent based cleansers were commonly used by the automotive industry to remove this coating before the automobiles were sent to dealers. In 1973, a Los Angeles County Sanitation Districts permit application for industrial wastewater discharge listed "decosmoline" and solvent as raw materials that would be used and discharged to the sewer system from the carwash.

A brief discussion of operations within each area of the site is presented in the following paragraphs. See Plate 3 and Table 1 for building locations and reference.

#### Front End Building - O (Central Property)

Two service pits and a clarifier were associated with the front end building. Two drains and the outline of piping were observed by McLaren between the two service pits. At the time of the site visit, the service pits had been excavated. "Spot" chroming had been performed in this area. A 1971 Los Angeles County industrial waste survey reported that waste chrome was collected and stored in 55-gallon drums and transported offsite to a dump. McLaren reported that one of the pits was used for undercoating and the other for alignment.

#### Tune-up Building - M (Central Property)

Four service pits were associated with the tune-up building. A 10,000-gallon UST was also located adjacent to the tune-up building. These features had been excavated at the time of the site visit.

#### Mechanical Warranty and Service Building - L (Central Property)

This structure contained 13 hoists that had been removed and excavated at the base and four hydraulic hoists that were still in place. Four 550-gallon waste oil USTs were located west of and adjacent to the building. The four USTs had been removed. A concrete clarifier was located east of this building and two USTs were reportedly removed east of the building in 1985 or 1986.

#### Parts and Service Building - K (Central Property)

This structure contained two hoists that had been removed and excavated at the base and two hoists that were still in place. A 550-gallon waste oil UST had been removed east of the building.

#### Paint Building - J (Central Property)

The paint building was previously used as a carwash and paint spray booth. The carwashes at the site were constructed with conveyor belt trenches for automation. Debris from the wash often collected in these trenches. The carwash was replaced by two spray paint booths. The date of this changeover is unknown. Each paint booth was built upon a concrete pad with a drain for paint rinse washdown. Chrysler utilized both acrylic and enamel paints. A fourth paint spray booth was constructed at the south end of the building over a concrete basement.

#### Body Work Building - G (Central Property)

A concrete clarifier was associated with the body work building. No other details related to the structure were noted by McLaren.

#### Other Facilities (Central Property)

McLaren stated in their report that they had reviewed a drawing dated July 7, 1973 that showed a fuel island in the southwest corner of the Central Property. Because there was no fuel island in that location, McLaren inspected the area for surficial evidence of the presence of fuel pumps or USTs. Other than an area of asphalt darker in color than the surrounding area, no above-ground evidence of a fuel island or USTs was found. The operations manager for Chrysler stated that to his recollection, no fuel island had existed at that location. Three elongate buildings that were not described by McLaren were located in the south central portion of the Central Property (two are south of the paint building and

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the third is west of carwash A) as shown on Plates 1 through 3. Currently, there is no information available regarding the former use of these buildings.

#### Carwash and Auto Detail Building - H (Central and Multitenant Properties)

This building was used for detailing, air brushing, and carwashing. An enclosed area formerly used for the storage of flammable materials was located adjacent to the building and a concrete clarifier was located adjacent to the flammable storage area. A basement and two conveyor belt trenches were associated with the building. Presumably, the basement and conveyor trenches were constructed of concrete. However, the actual type of materials used for construction is unknown at this time. Floor drains existed throughout the building to funnel runoff from the carwash and detail operations to subsurface plumbing. A sump was also observed in the carwash. A third carwash was also operated south of the detail building. Concrete trenches for the conveyor, a hydraulic system, and a clarifier were associated with this third carwash.

#### Import Installation Building - G (Central and Multitenant Properties)

At the time of McLaren's site visit, the Import Installation facility was no longer in use. McLaren reported that this building had been built in 1983, was a metal sided building, and that no evidence of the use or storage of chemicals was observed. The concrete floors and a uncovered concrete pad were observed to have floor drains. No additional information regarding the use of the building was reported. The Import Installation Facility was located largely across what is now Burke Street, extending onto the Multitenant and Central Properties.

#### Uniform and Maintenance Building - B (Multitenant and Central Properties)

This metal-sided building was used for storage of uniforms and maintenance materials. At the time of McLaren's visit, the building was no longer in use and evidence

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of chemicals was not observed. Most of this building was located within what is now Beasor Avenue.

Administration Building - A (Multitenant Property)

The Administration Building was a one-story structure consisting of offices, restrooms, and lobby areas. Reportedly, no chemicals were used, stored, or disposed in the building. Three electrical transformers (reportedly "dry" type) were located east of the administration building.

Hot Start Building - P (LaSalle Property)

The Hot Start Building was a metal-sided building used for hot engine emissions control testing. Two 3000-gallon USTs and a clarifier were removed from the west portion of this building. At the time of McLaren's visit, two service pits and a hoist had also been removed. McLaren observed leaking 5 and 55-gallon containers that had stained the concrete surface inside the building, concrete stained by oil adjacent to the hoist excavation, and floor drains.

Cold Start Building - Q (LaSalle Property)

The Cold Start Building was a metal sided building used for cold engine emissions control testing. Two service pits, three hoists, and a clarifier were removed from this area. A concrete pad was located northeast of the building. Floor drains were observed inside the building. McLaren made no mention of observations of oil and grease staining of the concrete floors.

### 2.3 Summary of Previous Geotechnical and Environmental Investigations

The reports summarized below address investigations of the original 40-acre property. The previous environmental investigations were performed by McLaren, Converse Environmental West (Converse), Petroleum Industry Consultants, Inc. (PIC), and Geosec. A compaction report prepared by Western Laboratories is also included.

When the property was developed, it was divided into three properties, the LaSalle, Central, and Multitenant properties (Figure 2). Most of the investigative activities occurred on the 21-acre property known as the Central property. The LaSalle property, located at 12310 Slauson Avenue, occupies approximately 10 acres at the eastern portion of the original 40-acre property. The Central property (the "site"), located between the Multitenant property and the LaSalle property at 12140 Slauson Avenue, occupies approximately 21 acres. The Multitenant property, in the northwest corner of the 40-acre parcel, is located at the intersection of Slauson Boulevard and Sorenson Avenue and occupies approximately 9 acres.

The Administration Building, parking areas, Sako's restaurant, and portions of the Uniform and Maintenance Building and Import Installation Facility were observed on the Multitenant property in aerial photographs. All other known operations related to the preparation of new automobiles were observed to have occurred on portions of the Central and LaSalle properties. The majority of these operations were observed to occur on the Central property.

Plate 3 shows approximate locations of the areas investigated by PIC, Converse, and McLaren as described below. Because Plate 3 is based on figures produced by PIC, McLaren, Geosec, and Converse for their various reports, these locations are approximate.

The former features associated with the Chrysler New Car Prep facility have been labelled for identification as shown on Plates 2 and 3. Tables 1 and 2 list the identification

of the individual buildings and features and summarize previous investigations performed at the property.

### **2.3.1 Soil and Preliminary Assessment Investigations**

#### **August 29, 1963: Compaction Report by Western Laboratories**

A letter report that refers to "Parking Lot and Test Track" compaction report prepared by Western Laboratories and dated August 29, 1963 indicated the subject property was previously undeveloped and covered with native vegetation. In 1963, the vegetation was removed and the site was graded in preparation for an asphalt-covered parking area. The top 6 to 12 inches of native soil was compacted to 90 %. Fill soils consisting of silt and sand were placed in 4 to 6-inch lifts where necessary and compacted. Depth of fill materials ranged from 0.6 to 5.0 feet. No indication that contamination or evidence of contamination during excavation/fill operations was noted in the report.

#### **March 31, 1988: Tank Removal Geologic Report by Petroleum Industries Consultants, Inc.**

Petroleum Industries Consultants (PIC) prepared this report for Chrysler Motors New Car Prep Center. Colorado Pacific Constructors, Inc. removed 10 USTs and 7 concrete clarifiers from the Nu Car Prep Center on March 16 and 17, 1988. PIC was contracted to provide personnel to conduct a visual inspection of lithology, recover soil samples from the bottom of tank excavations, oversee laboratory testing of the soil samples, supervise the excavation operations, and prepare a report. According to the PIC report, one 10,000-gallon gasoline UST (T-3), two 6,000-gallon gasoline USTs (T-7, LaSalle property), two service pump islands (T-1 and T-3), two 3,000-gallon gasoline USTs (T-1), five 550-gallon waste oil USTs (T-5 and T-6), and seven concrete clarifiers (CL-1 through CL-7) of various capacities were removed (Plate 3). Visual and olfactory evidence of soil contamination was observed at three of the tank locations and two of the clarifier locations (T-1, T-5, T-6, CL-2, and CL-5).

PIC collected 30 soil samples during the removal of the USTs and clarifiers on March 16 and 17, 1988. Two soil samples were collected at two feet below the base of each of the gasoline USTs and pump islands and analyzed for total petroleum hydrocarbons (TPH) by EPA method 8015 (modified for gasoline). One soil sample was collected at two feet below the base of each waste oil UST and clarifier and analyzed for TPH by EPA method 418.1. Two of three samples from the spoils piles were analyzed for TPH by EPA method 8015 and one sample was analyzed for TPH by EPA method 418.1. Laboratory results indicated elevated levels of TPH for seven samples from the five sample locations mentioned above (T-1, T-5, T-6, CL-2, and CL-5).

PIC returned to the site on March 21 through 25, 1988 to excavate additional soil and collect additional samples. PIC reported that soil in the five locations (T-1, T-5, T-6, CL-2, and CL-5) was removed until the soil no longer exhibited visual or olfactory evidence of contamination. Nineteen soil samples from the walls and base of the excavations were analyzed for TPH by either EPA method 418.1 or 8015 modified. PIC concluded that "substantially all contaminated soil had been removed from impacted sites at the facility" and that all final samples exhibited TPH concentrations of 42 milligrams per kilogram (mg/kg) or less except for one sample. The sample in which 42 mg/kg TPH was detected was sample P24-B, collected from the vicinity of the four waste oil USTs removed west of the mechanical warranty and service building (Building L). The sample in which 110 mg/kg TPH was detected was sample P3-B, collected from within the UST excavation south of the uniform and maintenance building (Building B).

PIC had the samples analyzed for TPH only. PIC also composited several samples from the same excavation, possibly diluting the samples before the analysis. Based on information related to operating practices at the subject property such as the use of solvents for degreasing and the disposal of all floor washdown and carwash discharge water to the sewer, it appears that petroleum hydrocarbons were probably not the only chemicals disposed into waste oil tanks and clarifiers at the subject property. MSDS forms prepared for products used at the subject property indicate that oils, metals and solvents were handled

at the facility. Agency inspection records filed by the Los Angeles County Sanitation Districts and the Los Angeles County DHS indicate that VOCs such as PCE, TCE, methyl-ethyl-ketone, and acetone and metals were also used onsite. The TPH analyses may be adequate for detection of TPH in soils surrounding USTs, but was not adequate to detect other chemicals (such as metals, VOCs, and SVOCs) that were used onsite and possibly disposed into the onsite waste oil tanks and clarifiers.

May 6, 1988: Results of Limited Field Investigation by McLaren Environmental Engineering

This report was prepared for Catellus by McLaren Environmental Engineering (McLaren). McLaren performed this limited investigation to evaluate if chemicals were present in the soil as a result of past operating practices (specifically to evaluate the presence of petroleum hydrocarbons in the hoist area of Building L and the depth and concentration of chemicals in the paint spill area of Building J). McLaren excavated five hand auger borings on the property (Plate 3) to evaluate the potential for soil contamination in a limited portion of the site. Four of the borings (C-1 through C-4) were performed within excavations created by the removal of hoists from the mechanical warranty building. Only one sample from each of these borings was collected for analysis. Soil sample depths in borings C-1 through C-4 ranged from 5 to 7.5 feet below ground surface (bgs). One additional hand auger was drilled adjacent to the floor drain within the paint building (C-5). Soils from 0.5 and 7 feet bgs were collected from boring C-5.

McLaren field personnel observed stained and odorous soil and concrete in the hoist area. They assumed that soil was stained due to petroleum hydrocarbons such as oil and grease. Analytical results indicated less than 10 mg/kg TPH, the detection limit for the analysis of samples collected from borings C-1 through C-4. No analyses for metals or VOCs were performed on samples from the hoist area.

A sample from boring C-5, drilled near the floor drain in the paint area, was analyzed for metals and halogenated organic compounds. McLaren reported the presence of metals at concentrations within normal ranges for native soils and 30.0 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ) of trichloroethene (TCE) in C-5 at 0.5 feet.

McLaren concluded that visual observation of petroleum hydrocarbons in the soils within the hoist excavations was made but that hydrocarbons were not detected during analysis of the soil samples and that the 0.03 ppm of TCE detected in the soil beneath the paint area was relatively low concentration. Because no TPH was detected in samples collected from visibly oily soils, the sampling technique may have been inappropriate or the validity of the laboratory data may have been questionable.

October 28, 1988: Tank Excavation and Removal Report by Geosec

Geosec was contracted to observe the removal of two USTs (T-8) discovered by Catellus while the buildings were being razed and the property graded in October, 1988. The two USTs (T-8) were located west of and adjacent to carwash A (Building H). Geosec observed the removal of the two 550-gallon USTs from the property on October 20, 1988. They reported that the two USTs were constructed of steel and that the former contents were unknown as there were no available records for the USTs. Based on the odors emanating from the USTs, Geosec suggested that the contents could have been paint thinner. One soil sample was collected from 2 feet below the base of each UST by placing a sample into a glass jar with a hand trowel (i.e. a disturbed sample).

Samples were analyzed for TPH as gasoline and BTEX by EPA methods 8015 (modified) and VOCs by EPA method 8020. TPH and BTEX were not detected in the samples. Geosec concluded that no soil contamination was present beneath either UST. However, the sample collection method was not appropriate for the analyses performed because the use of a hand trowel would allow volatile components to escape quickly.

The Geosec report does not show sufficient detail to locate the UST excavation. However, a representative of Catellus recalled that the USTs were removed from an area adjacent to and west of carwash A (Plate 4)(T-8). No analyses were performed for VOCs or metals.

January 11, 1989: Property Transaction Environmental Assessment, 12140 Slauson Avenue by McLaren Environmental Engineering prepared for Catellus

McLaren prepared an environmental assessment report describing the original 40-acre property, surrounding area, agency contacts for site specific and neighboring property information, and descriptions of types of activities performed in the buildings onsite. The site inspection included the administration building, transformers, uniform and maintenance building, emissions control lab, front-end building, tune-up building, mechanical warranty building, warranty and parts building, paint building, body works building, car wash and detail building (includes 2 car washes), a third car wash, production control/port operations tower, quality control building, and the import installation facility. McLaren's review of agency files for the property indicated that the facility had been inspected by the Los Angeles County DHS and the Santa Fe Springs Fire Department.

McLaren stated in their report that they had reviewed a drawing dated July 7, 1973 that showed a fuel island in the southwest corner of the Central Property. Because there was no fuel island in that location, McLaren inspected the area for surficial evidence of the presence of fuel pumps or USTs. Other than an area of asphalt darker in color than the surrounding area, no evidence of a fuel island or USTs was found. The operations manager for Chrysler stated that to his recollection, no fuel island had existed at that location.

Based on the observations made at the site, agency contacts, and review of PIC and Converse reports, McLaren reached the following conclusions: (1) there is potential soil contamination in backfilled excavations related to the east UST in tank location T-1, in the location of clarifier CL-2, and two waste oil USTs in tank location T-5 (McLaren based this

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opinion on their review of the PIC report dated March 31, 1988); (2) oily stained soil was observed at the base of the hoist excavations in the mechanical warranty building (Building L) but TPH was not detected in the soil samples collected (McLaren based this opinion on their own visual observations of oily soil and concrete and analytical data from soil samples from the hoist excavations); (3) soils beneath other hoist locations have the potential to be contaminated; (4) TCE was detected in the soil beneath the paint building; (5) there is a potential for soil contamination in former service pit locations, the carwash basement location, carwash sump location, and carwash conveyor belts and trenches; (6) there is a potential for contamination in soils underlying facility plumbing and drainage systems; and (7) because no observable evidence was found and the operator of the subject property did not know of its existence, the presence of a UST fuel island at the southwest corner of the property is unlikely.

McLaren mistakenly concluded that PIC had left concentrations of up to 7400 mg/kg TPH in the soil. PIC had returned to the property to remove additional soil and resample the excavations, however the findings in the PIC report were not presented in a manner that made this point clear. The analytical data presented by McLaren for soils from within the hoist excavations are not consistent with McLaren's visual observations of oily soils and concrete associated with the hoists.

May 22, 1989: Preliminary Geotechnical Investigation by Converse Consultants prepared for Catellus

Converse Consultants performed a preliminary geotechnical investigation at the original 40-acre property between March 14 and 17, 1989. The purpose of the investigation was to evaluate the subsurface soil conditions for geotechnical information prior to development. Therefore, not all of the borings were necessarily located in areas of former site activity. The investigation consisted of drilling 20 geotechnical soil borings (BH-1 through BH-20) throughout the property at five foot intervals to a depth of approximately 30 feet bgs throughout the site (Plate 4). All soil samples were screened in the field with

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an organic vapor analyzer (OVA). No total organic vapors were detected by the OVA. No other field evidence that would indicate soil contamination (such as soil staining or hydrocarbon odors) was noted on the boring logs. Soil samples from the upper 10 feet of sediments were found to consist of dense, moist silt to clay. At approximately 15 feet bgs, the soils grade from silt to fine sand. Groundwater was encountered at a depth of approximately 33 feet bgs during the investigation.

June 16, 1989: Preliminary Environmental Assessment by Converse Environmental Consultants prepared for Catellus

Converse Consultants completed a preliminary environmental assessment for the original 40-acre property that included drilling and sampling soil borings to a depth of 20 feet bgs (Plate 3). These (eight) borings were included in the 20 borings described above for the May 22, 1989 Preliminary Geotechnical Investigation by Converse. Converse prepared separate reports, a geotechnical and an environmental report for the 20 borings. The eight environmental boring locations were located in areas of high use through the use of an aerial photograph taken in 1988 when Chrysler Nu Car Prep occupied the property. Seven of the eight borings were placed in the approximate former locations of USTs or clarifiers (Plate 3). Converse placed the eighth boring in the vicinity of what they described as a former car wash. Soil samples from borings BH-5, BH-9, BH-10, BH-13, BH-14, BH-15, BH-16, and BH-17 were analyzed for TPH by EPA method 8015 modified for gasoline. TPH was not detected in any of the samples.

Converse analyzed two soil samples collected from boring BH-9 (at the former location of clarifier CL-2) from depths of 5 and 10 feet bgs for halogenated volatile organic compounds by EPA method 8010. Converse selected this analytical method to evaluate for the presence of halogenated solvents which they believed may have been associated with carwashing and degreasing. Tetrachloroethylene (PCE) was detected in boring BH-9 at 5 and 10 feet bgs at concentrations of 570 and 55  $\mu\text{g}/\text{kg}$ , respectively.

April 27, 1990: Property Assessment, Chrysler, 12140 Slauson Avenue, by McLaren Environmental Engineering

McLaren prepared a summary report of the site history and site investigations known to date for Catellus. McLaren suggested that: (1) the vertical extent of PCE contamination in soil in the vicinity of the car wash was unknown because no samples from below 10 feet bgs were analyzed; (2) based on a review of PIC and Converse reports, remediation of soils affected by TPH as a result of leaking USTs was complete; and (3) additional site characterization may be necessary to evaluate the extent of soil contaminated by chlorinated hydrocarbons to evaluate the potential for groundwater contamination as a result of past site activities.

**2.3.2 Soil and Groundwater Investigations**

December 28, 1990: Preliminary Soil and Groundwater Investigation by Converse Consultants

An additional soil investigation and groundwater investigation was performed by Converse Consultants for Catellus to further investigate subsurface conditions in the vicinity of former clarifier CL-2 located adjacent to the former location of the body work building (Building G) (Plate 3)(This area was previously referred to by Converse as the former car wash building). Previous analytical results indicated the presence of PCE in two soil samples from boring BH-9. Converse sampled soil from 12 additional borings drilled in the vicinity of the former clarifier (BH-9A through BH-9L). Samples were analyzed from depths ranging from 10 to 30 feet bgs.

Analytical results presented in the report indicate that chlorinated hydrocarbons and petroleum compounds were present in the soil at varying depths in all but one (BH-9B) of the borings. Visibly stained dark-green to black soil was encountered from approximately five feet bgs to the base of the excavation below the groundwater table. Stained soils were

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subsequently excavated from beneath the former clarifier. The excavated area was approximately 25 feet by 25 feet by 33 feet deep and extended into groundwater. Soil samples S-1 through S-10 were collected from the excavation sidewalls and base and analyzed for VOCs and TPH. Analytical results indicated the presence of PCE (PCE concentrations ranged from 3.2 to 3,800  $\mu\text{g}/\text{kg}$ ) in each sample, TPH as high as 13,000 mg/kg in five of the seven samples, and the presence of other related compounds. Most of the soil samples were analyzed by EPA method 8010, some were analyzed by combined EPA methods 8010/8020.

Converse performed two soil vapor surveys at the site in December, 1990 and January, 1991. The December, 1990 survey consisted of sampling 24 points from a depth of approximately 4.5 feet bgs. The samples were screened with an Organic Vapor Analyzer (OVA) for total organics. The OVA is a field screening instrument that provides a crude measurement of total volatile components. No total volatiles were detected with the OVA. Five of the samples (N, R, V, W, and X) were also analyzed by EPA Method 8010 for halocarbons. PCE and DCE were detected in sample N. TCFM (Freon 11) was detected in samples N, R, V, and W. The second Converse soil vapor survey consisted of collecting five vapor samples from the vicinity of former clarifier CL-1 it had been removed. These five samples (VG-1, VG-2, VG-4, VG-6, and VG-8) were analyzed by EPA Methods 8010 and 8020 for VOCs. No VOCs were detected in the five samples.

In addition to the soil investigation, seven groundwater monitoring wells (GW-1 through GW-7 (Plate 3)) were installed and sampled in November-December 1990. Groundwater samples were analyzed for VOCs by EPA method 601. Chlorinated hydrocarbons including DCE, PCE, and TCE were found in all seven groundwater monitoring wells. Other chlorinated compounds detected included TCA and TCFM. Benzene was found at 10  $\mu\text{g}/\text{l}$  in the sample from GW-4. Concentrations of chemicals detected in groundwater are presented below as a range from the lowest to the highest detected concentration:

DCE - 4.2 in GW-6 to 1400  $\mu\text{g}/\text{l}$  in GW-4,

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PCE - 2.1 in GW-6 to 520  $\mu\text{g/l}$  in GW-3,  
TCE - 63.2 in GW-6 to 480  $\mu\text{g/l}$  in GW-2,  
TCA - detected in GW-3 (14  $\mu\text{g/l}$ ) and GW-4 (13  $\mu\text{g/l}$ ) only, and  
TCFM - non detect in GW-6 to 310  $\mu\text{g/l}$  in GW-3.

Converse concluded that VOCs and petroleum related hydrocarbons were found in the soils directly beneath and within the vicinity of the former clarifier and that ground water beneath the site in the vicinity of clarifier location CL-2 had been impacted by VOCs. The soils were found to be affected by VOCs and petroleum related hydrocarbons from approximately five feet bgs to 33 feet bgs where they were in contact with groundwater.

September, 1991: Soil and Groundwater Investigation by Converse Consultants prepared for Catellus

Information presented in this report principally summarizes data obtained during previous Converse investigations. Analytical data indicate that significant concentrations of TPH and chlorinated solvents were detected in soils underlying the former clarifier (clarifier location CL-2) located adjacent to the former body work building. TPH concentrations ranged up to 13,000 mg/kg for a sample collected at 22 feet bgs beneath the former clarifier. Trichloroethene (TCE), tetrachloroethene (PCE) and 1,1-dichloroethene (DCE) were detected in soil at maximum concentrations of 340  $\mu\text{g/kg}$ , 3,800  $\mu\text{g/kg}$  and 1,200  $\mu\text{g/kg}$ , respectively. As a result, Converse Consultants excavated approximately 1,000 cubic yards of soils associated with the former clarifier. During the excavation process, visual evidence of soil staining was observed by field personnel and later confirmed by analytical testing to a depth of approximately 33 feet bgs. Analyses of soil indicated the following:

PCE detected in soils in vicinity of clarifier location CL-2 from 5 feet to 30 feet bgs;  
1,1-DCE detected in soils from 10 to 30 feet bgs;  
TCE detected in soils from 20 to 30 feet bgs; and  
BTEX detected in soils from 10 to 30 feet bgs.

However, some soils that had been impacted by these chemicals were left in place in the vicinity of CL-2. The Converse data shows that lower concentrations of chlorinated solvents were detected in the soil samples collected from borings placed outside the limits of the excavation.

Four additional monitoring wells (GW-8 through GW-11) were installed to provide information along the upgradient (western) side of the original 40-acre property. Groundwater elevation measurements indicated a groundwater gradient of 0.002 to the south-southwest.

Groundwater samples were collected from all eleven wells in January, 1991 and analyzed for VOCs by EPA methods 601/602. The results indicated the presence of the following VOCs:

- 1,1-DCE ranging from 4.2 in GW-6 to 1200  $\mu\text{g/l}$  in GW-3;
- PCE ranging from 2.1 in GW-6 to 520  $\mu\text{g/l}$  in GW-3;
- TCE ranging from 4.0 in GW-6 to 500  $\mu\text{g/l}$  in GW-7;
- 1,1,1-TCA ranging from less than 0.5  $\mu\text{g/l}$  (non-detectable) in GW-5, GW-6, GW-8 and GW-10 to 14  $\mu\text{g/l}$  in GW-3; and
- Trichlorofluoromethane ranging from non-detectable in GW-6, GW-8, GW-9, and GW-10 to 370  $\mu\text{g/l}$  in GW-3.

The results also indicated the presence of low concentrations of benzene, toluene, ethylbenzene, and xylene (BTEX) in three wells upgradient of the property. Converse concluded that generally, the highest concentrations of VOCs were detected in monitoring well GW-3 (downgradient of clarifier location CL-2) and the lowest concentrations of VOCs were detected in monitoring well GW-6 (upgradient of the LaSalle Property).

## **2.4 Summary of Remedial Action to Date**

Remedial actions to date at the original 40-acre property have consisted of removal of soils from excavations associated with the removal of USTs, service pits, and clarifiers. Most of this soil was removed from the property concurrent with the removal of each underground feature. However, there is soil stockpiled on the Central Property as a result of Converse's excavation of the former clarifier.

PIC removed in excess of 1000 cubic yards of TPH contaminated soil from the original 40-acre property and disposed of it at a Class I facility. Soils were excavated for offsite disposal were removed from five locations (T-1, CL-2, T-5, T-6, and CL-5). The PIC report does not indicate quantities of soil removed from each of the five excavations.

Converse removed approximately 1000 cubic yards of soil from the clarifier (CL-2) adjacent to the body work building. PIC had previously removed some soil from the same location and backfilled the excavation. The need for additional excavation by Converse was based on the results of analysis of soil samples from borings BH-9 through BH-9L. Soils excavated by Converse from the location of the former clarifier (CL-2) were found to be contaminated with chlorinated solvents, TPH, and toluene, ethylbenzene and xylene. However, soils impacted by lower concentrations of these chemicals were not excavated and remain in place. Soil removed from the clarifier excavation by Converse has been stored on the Central Property. One sample was collected from the stockpile (SP-S1) and analyzed by EPA method 8010/8020 indicated the presence of TPH (180 mg/kg), PCE (20  $\mu\text{g/kg}$ ), ethylbenzene (7.7  $\mu\text{g/kg}$ ), and xylene (95  $\mu\text{g/kg}$ ).

## **2.5 Current Land Use**

Since the demolition of the New Car Preparation facility in 1988, the Central Property has not been further developed. Currently, a portion of the Central Property is fenced, has been graded relatively level, and is not used. Backfill soils have been stored

onsite for use in future development. Excavated soils from clarifier CL-2 also remain onsite in an area separate from other stockpiled soil. According to available information, all known structures and below ground features such as USTs, and clarifiers, associated with former operations at the original 40-acre property have been removed. However, not all of the plumbing and sewer pipelines have been removed, as plumbing pipelines were visible within the excavation for clarifier CL-2 and there is no documentation of the removal available.

## **2.6 Local Geologic and Hydrogeologic Setting**

### **2.6.1 Physiography**

The Central Property is located in Section 29, Township 2 south, Range 11 west within the City of Santa Fe Springs, County of Los Angeles, California. Topographic map coverage of the Central Property and vicinity is provided by the U.S. Geological Survey, Whittier, California quadrangle 7.5 minute series map (1965 and photorevised in 1981). The elevation of the subject property is approximately 145 feet above mean sea level (MSL) with the subject property being located within a shallow valley that drains to the southeast (Figure 1). The subject property is relatively level. The nearest surface water or drainage channel is the Sorenson Avenue Drain, a concrete lined channel located adjacent to the south property boundary. The Sorenson Avenue Drain intermittently flows southeast, combines with La Canada Leffingwell Creek and flows to the south as La Canada Verde Creek and empties into the San Gabriel River approximately 11 miles south of the subject property. The San Gabriel River also flows to the south approximately one mile west of the subject property. Because the Sorenson Avenue Drain and La Canada Leffingwell Creek are concrete lined through the Santa Fe Springs area, the water course should not have much of an effect or impact on local groundwater conditions. However, they do follow the path of what was once a natural waterway.



## **2.6.2 Local Ground Water Conditions**

Based on information gathered from investigations performed by Converse Environmental West (Converse, December 28, 1990, and March 21, 1991) at the Central Property and adjacent parcels and Dames & Moore at the Multitenant and LaSalle Properties in September and October 1991, groundwater occurs at depths of approximately 32 to 35 feet bgs onsite. Groundwater first encountered beneath the site appears to be unconfined and is found within coarse-grained sediments interpreted to be the top of the Gage aquifer. Within the site vicinity this portion of the Gage aquifer is not currently considered to be of beneficial use (personal communication, E. G. Solomon, RWQCB Water Resources Control Engineer, 1991). Groundwater flow direction and gradient were calculated using water level data obtained from the five onsite wells and 14 wells on the LaSalle and Multitenant Properties. Based on groundwater levels measured in October 1991, the direction of groundwater flow beneath the Central Property is to the south (Figure 3). A detailed description of regional groundwater conditions is included as Appendix B.

## **2.7 Additional Background Data**

### **2.7.1 Demography**

The City of Santa Fe Springs is primarily industrial. Historically, the area has been characterized by oil exploration and agricultural activities. Oil fields continue to be operated within the City boundaries. According to the Santa Fe Springs Planning Department, the City's current land use is as follows:

- o residential - 10%
- o industrial - 73.5%
- o commercial - 1.5%
- o public areas and parkland - 2%

- o streets and roadways - 13%

The population remains relatively stable. Figures provided by the State of California Department of Finance indicate that the population was 14,750 in 1970 , 14,520 in 1980, and 16,416 as of January 1, 1991.

### **2.7.2 Surrounding Land Use**

A windshield survey of the area within a one-mile radius of the Central Property was conducted to assess the nature of land use. Current land use within a one-mile radius is shown on Figure 4. The subject property is located in an area dominated by light manufacturing/industrial businesses for an approximately 1/2-mile radius around the site. Many of these businesses are located in concrete tilt-up warehouses of recent construction. Businesses located adjacent to the Central Property include:

East: LaSalle Paper Company at 12310 Slauson Avenue. The LaSalle Paper Company property is occupied by a large warehouse. The Lincoln Industrial Center is located east of and adjacent to the LaSalle Paper Company. In addition to small manufacturers, a grocery warehouse, grocery truck maintenance shop, and USTs for truck fueling are located at the Lincoln Industrial Center.

South: Across the Sorenson Avenue Drain lies Free-Mac Industries where new automobiles are stored.

West: Daniels Goodyear Tire Service and Sealtronics, Inc. Daniels performs general automobile towing, repair and tire service. Sealtronics is a small manufacturer of electronic parts.

**North:** A recently constructed office park (the Multitenant Property) known as Pacific Springs lies between Burke Street and Slauson Avenue. Currently, the tenants at the Multitenant Property include a restaurant and small businesses, none of which manufacture their products on the property. A series of newer construction tilt-up office parks are located along the north side of Slauson Avenue. Tenants include restaurants, travel agents, print and photo shops, automobile part shops, and other retail businesses. An office park constructed in January, 1991 lies immediately north of the subject site at the southeast intersection of Slauson and Sorenson Avenues.

The nearest residential neighborhoods are located approximately 1/2-mile to the east, north, and west, beyond the commercial/industrial area.

### **2.7.3 Climatology**

The climate of the Los Angeles basin is generally classified as Mediterranean. Nearly all precipitation occurs during the months of December through April. Precipitation is infrequent during the summer months and occurs mainly during the months of December through April. Temperatures are moderate throughout the year with January and July being the coldest and warmest months, respectively. The average daily minimum temperature for January is 48 degrees above zero and the average daily maximum temperature for July is 84 degrees above zero.

Average yearly rainfall is approximately 14 inches per year. Average yearly evaporation is approximately 52 inches per year. Prevailing winds are from the west during the spring, summer, and early autumn, with northeasterly winds predominating the remainder of the year. Average wind speeds are low, although periodically during the year, warm northwesterly winds from the interior can reach speeds of 35 to 50 mph.